

14. ON *EOCYZICUS* SP. (CONCHOSTRACA, BRANCHIOPODA)  
AT PANCHGANI, W. INDIA

(With one text-figure)

Branchiopods in India as in South Africa (Barnard 1929) are found at high altitudes, on the Himalayan range in the north and the Sahyadri range along the west. The Tableland at Panchgani (N. Satara altitude 4296 ft.) is one such place. It is unique in that within a radius of a few hundred yards, four phyllopods belonging to four different orders of the sub-class Branchiopoda are found in abundance. The forms recorded in the past are *Triops orientalis* (Tiwari), 1951 (Notostraca), *Streptocephalus dichotomus* Baird (Anostraca), *Leptestheriella gigas* Karande & Inamdar, 1959 (Conchostraca), and *Daphnia* sp. (Cladocera).

In August 1956 while making routine collections of branchiopods at Panchgani, twenty-five individuals of *Eocycticus* sp., commonly known as *Estheria*, were found, adding one form to the list of phyllopods earlier recorded from this place. Since 1849 seven different species of *Eocycticus* have been reported from the Indian sub-continent, three of them from Pakistan and four from India (personal communication from Dr. K. K. Tiwari, Zoological Survey of India).

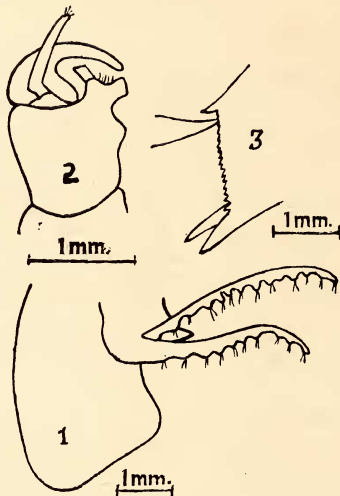
These *Eocycticus* forms could be collected only that once at Panchgani and nearly twenty attempts made since 1956 to collect more have failed. The need to collect these Estheriids is particularly compelling now as the specimens collected in 1956 have been misplaced. The total disappearance of these *Eocycticus* forms amidst the abundance of other branchiopods is very common in many phyllopod Crustaceans (Fox 1949). The eggs of branchiopods need desiccation prior to hatching (Barnard 1929; Karande & Inamdar 1961) and this kind of prolonged but temporary absence may be caused by two independent factors: (1) inadequate desiccation of the fertilized eggs, and (2) insufficiency of water for wetting and the subsequent hatching process.

The following are the taxonomic characters of the *Eocycticus* sp. found on the Tableland, Panchgani.

The shell is rounded-ovate with 30-35 growth-lines.

The anterior angle of the rostrum of the male is slightly more than a right angle and the hind angle is rounded quadrate (Fig., 1). The profile between the occipital angle and the eye is straight. The first antenna bears 14-17 hairy papillae (Fig., 1). The second antenna has 13-15 segments on each ramus.

Out of twenty-five specimens examined, carefully bearing in mind Linder's advice, twenty-three showed 19 pairs of limbs, and only one



*Eocyclus* sp.

1. The rostrum of male with first antenna; 2. 'Hand' of the first prehensile limb of male; 3. The telson of male

(Semi-diagrammatic)

male and one female 20 pairs. In the female the 9th and 10th limbs are ovigerous and in the male the first two limbs are prehensile. The anterior margin of the 'hand' is deeply notched (Fig., 2).

The dorsal margin of the telson has 19-23 spines in the male, whereas in the female there are 20-29 spines. The spines in both are smooth and sub-equal except the first which is larger and stronger than those that follow (Fig., 3). The enlargement of the foremost spine on the upper margin of the telson is a useful 'firsthand' in the identification of the family Cyzicidae. The paired plumose sensory hairs on the telson are present. The dorsal surface of the body segments shows a maximum number of 13 spines. Dimensions: up to 5 to 7 mm. in the male and 5 to 6 mm. in the female. Some of the female specimens had fertilized eggs under their bivalve shells and were evidently well-grown adults. Colour: pale brown in formalin-glycerine preserved specimens,

The large number of spines on the telson and the low number of legs distinguish this form from its allied species and, therefore, are features that need further examination. The latter feature particularly may improve the description of the family Cyzicidae.

A favourably placed naturalist who can undertake frequent trips to Panchgani during the monsoon months may be able to re-discover this rare bivalve Crustacean and throw further light on its taxonomic position. To help in the search the present communication gives a detailed description of the important taxonomic characters.

We thank the Bombay Natural History Society, Bombay, for financial assistance towards the expenses of our collection trips.

DEPARTMENT OF ZOOLOGY,  
THE INSTITUTE OF SCIENCE,  
BOMBAY 1-BR,  
September 29, 1964.

ASHOK A. KARANDE  
N. B. INAMDAR

## REFERENCES

- BARNARD, K. H. (1929): Contributions to the Crustacean fauna of S. Africa. *Ann. S. Afr. Mus.* **29**: 181-270.
- FOX, H. M. (1949): On *Apus*: its rediscovery in Britain, nomenclature and habits. *Proc. zool. Soc. Lond.* **119**: 693-702.
- KARANDE, A. A., & INAMDAR, N. B. (1959): A new species of the genus *Leptestheriella* from India. *Ann. Mag. nat. Hist. Lond.* **2** (13): 305-308.
- KARANDE, A. A., & INAMDAR, N. B. (1961): Some observations on the biology of the Conchostracae branchiopod (Crustacea) *Leptestheriella gigas* Karande & Inamdar. *J. Bombay nat. Hist. Soc.* **56**: 215-225.
- TIWARI, K. K. (1951): Indian species of the genus *Apus* (Crustacea, Branchiopoda) with description of two new species. *Rec. Ind. Mus.* **49** (2): 197-206.

## 15. VARIANT BEHAVIOUR OF *CHALYBION BENGALENSE* DAHLB. (HYMENOPTERA, SPHECIDAE)

*Chalybion bengalense* Dahlb. [*Sceliphron violaceum* (Fabr.)] (FAUNA OF BRITISH INDIA, HYMENOPTERA **1**: 240) is a common domestic wasp around this part of India. Jayakar & Mangipudi (1964) and the present authors have recently made some contributions to the biology of this species. The females look for convenient natural cavities including derelict nests of other wasps (Jayakar & Spurway 1964b). These they fill with spiders on one of which they have laid an egg. These cells are then sealed with elaborate lids (Jayakar & Spurway 1964a). The North American species of *Chalybion*, which were previously believed (Peckham & Peckham 1905; Rau & Rau 1918) to build their own cells, are now considered as semi-parasites on *Sceliphron* spp., either using disused cells of these species or emptying out the contents